Real-Time Object Tracking Using Computer Vision

A Design Project Abstract

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The main objective of this project is to implement Real-Time object tracking and develop improved and more efficient methods for CCTV surveillance using **Computer Vision (OpenCV).**

Object detection and segmentation is the most important and challenging fundamental task of computer vision. It is a critical part in many applications such as image search, scene understanding, etc.

The easiest way to detect and segment an object from an image is the colour based methods. The object and the background should have a significant colour difference in order to successfully segment objects using colour based methods.

Object tracking is the process of:

1) Taking an initial set of object detections (such as an input set of bounding box coordinates)
2) Creating a unique ID for each of the initial detections
3) And then tracking each of the objects as they move around frames in a video, maintaining the assignment of unique IDs

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